LOS ANGELES COUNTY
ISD
INTERNAL SERVICES

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June 21, 2006

To: Each Supervisor

From: Dave Lambertson
Director

Subject: **HYBRID VEHICLE ACQUISITIONS UPDATE REPORT**

On April 17, 2006, ISD reported the status of hybrid vehicle acquisitions to your Board. This is an update on our efforts in this area as well as other alternate fuel initiatives.

Hybrid Vehicle Acquisitions

During November 2005, the Board adopted a motion directing all Department and District Heads to, whenever feasible, acquire hybrid passenger sedans as they replace the gasoline powered passenger vehicles, beginning no later then July 1, 2006.

In our prior update, we discussed the difficulty we were experiencing in purchasing hybrid vehicles and indicated that the most critical issue is the shortage of these vehicles. This situation has not changed. It continues to be difficult to acquire hybrids in a timely manner.

Since our last report, five of the 64 hybrid vehicles ordered have been delivered. We anticipate delivery of four more hybrid vehicles this month. Our discussions with Toyota and Honda lead us to expect that the bulk of the vehicles currently on order will not be delivered until the first quarter of calendar year 2007.

ISD's hybrid vehicle survey responses indicated that County departments plan to order an additional 39 hybrid vehicles in FY 2006-07. Departments have been asked to submit their FY 2006-07 requisitions as soon as possible due to the extended time needed for delivery.

Alternate Solicitation Approach

With the supply of hybrid vehicles decreasing and demand and price increasing, ISD has taken new approach in our most recent solicitation. Essentially, the solicitation was released as a "two tier" bid request for hybrid vehicles that asks the responders to bid:

- a specified percentage over or under invoice price for a fixed period of time for vehicles as they become available, and

- a specified percentage over or under invoice price based on being named the exclusive supplier of hybrids to Los Angeles the County.

There are two goals in this approach. First, we are attempting to streamline the bid process by having a standing order for hybrids rather then soliciting bids on a requisition-by-requisition basis.

Cars are traditionally bid on a "spot basis". Specifically, as ISD receives requisitions, we solicit for a specific number of vehicles and award to the lowest price response. The objective of the alternate approach is to enter into an agreement with a dealer to provide hybrids on an ongoing basis at a percent (plus or minus) of invoice. It is our hope that this approach will expedite the receipt of hybrids as a result of already having an order in place as vehicles come into the dealer's lot.

The second goal is to see if we can get more favorable pricing as well as delivery times by entering into an exclusive arrangement with a dealer. In both cases, the bids received will be evaluated and awarded based on overall costs, as well as, stated delivery times.

There will be some logistical challenges to meet even if the bid approach is successful. Notably, in some instances, ISD may have to take delivery of and store some vehicles in advance of departmental requisitions. There will also be a need for departmental acceptance of standard features and options.

We estimate that the bids will be received the second week in August. We will keep your Board informed of our progress in this area.

Availability of Used Hybrid Vehicles

Traditionally, the County acquires only new vehicles, however, due to the difficulty in purchasing new hybrids we have explored the possibility of buying used vehicles. The Sheriff currently purchases used vehicles at automobile auctions for use in undercover assignments. We talked with the Sheriff about the availability of hybrids at vehicle auctions and they are not aware of any hybrid vehicles being auctioned to date. At this time, buying used hybrids does not look promising.

Status of Acquisitions by other Public Agencies

ISD checked with other public agencies, specifically the City of Los Angeles, the Metropolitan Transit Authority, and the State of California, to learn what their experience has been with purchasing hybrid vehicles. Their experiences similar to the County's:

- City of Los Angeles - Ordered 105 hybrid vehicles in December 2005. To date they have only received 19 and expect to receive only 4 more during model year 2006. The balance of order will be cancelled.

- Metropolitan Transit Authority - Issued a bid request for 40 hybrid vehicles in January 2006. They received a bid for one vehicle, which was purchased.

- State of California – In February 2006, established a contract with a vendor (dealer) for hybrid vehicles to be ordered on an as-needed basis. The vendor stopped accepting orders shortly after the effective date of the contract. No vehicles have been delivered under this contract.

Flexible Fuel Vehicles Pilot

Flexible fuel vehicles (FFV) are capable of running on conventional gasoline or E85 ethanol. E85 is a fuel that consists of 85% ethanol and 15% gasoline. Ethanol is a fuel alternative to gasoline that is produced from grain such as corn, barley and wheat. E85 burns cleaner than gasoline and helps reduce air pollution. Its use reduces the consumption of petroleum. E85 is a renewable fuel produced in the United States. Attached is an E85 information paper entitled "Ethanol E85 FAQ's" (Attachment).

FFVs are manufactured by General Motors, Ford, Daimler Chrysler, Nissan, and others. However, at this time only General Motors makes FFVs available for purchase in California. The purchase price for a FFV is comparable to the same model vehicle that runs only on gasoline.

Currently, there are 14 FFVs in the ISD-managed fleet. However, there are no public or private E85 fueling stations in Los Angeles County. There are three private E85 fueling stations in the State of California located at Lawrence Berkley National Laboratory, Lawrence Livermore National Laboratory, and Vandenberg Air Force Base, Lompoc. The only public E85 fueling station in the State is in San Diego.

To allow us to fuel our FFVs with E85 and to investigate the pros and cons of FFV usage, ISD is researching the costs and feasibility of adding E85 fuel tanks to two of the ISD-operated fueling stations. If it is feasible, we plan to implement a pilot program at the Eastern Avenue fueling station next Fiscal Year.

Green Fleet Initiative Summit

ISD's Fleet Manager was invited to participate in a one-day summit, on June 20, 2006, to present a brief overview of Los Angeles County's clean vehicles initiatives. Other agencies that are scheduled to attend include the Sierra Club, Illinois EPA, National Resources Defense Council, and the Union of Concerned Scientists. There may be additional initiatives that result from this summit.

If you have any questions, please feel free to contact me or ISD's Chief Deputy Director, Tom Tindall, at (323) 267-2103.

DL:DB:elc
Attachments
c: ISD Board Deputies
Department Heads

Ethanol E85 FAQ's

What are Ethanol Fuels?

- Ethanol is an alternative fuel produced by fermenting and distilling starch crops, feedstocks for this fuel include corn, barley, and wheat.
- Ethanol can be blended with gasoline to create E85, a blend of 85% ethanol and 15% gasoline.
- As of 2005, E85 is frequently sold for up to 35% lower cost per quantity than gasoline.
- Vehicles that run on E85 are called flexible fuel vehicles (FFVs) and are offered by several manufacturers.

How is Ethanol made?

- Ethanol is produced by taking the starch or sugar portion of the corn and fermenting it. The fermented starch is then distilled into Alcohol. The excess water is removed so the resulting ethyl alcohol (ethanol) is pure-200 proof.
- One bushel of corn yields 2.8 gallons of Ethanol
- In a published report from 4/88. It is reported that it takes 71% more energy to produce a gallon of ethanol, than is contained in a gallon of ethanol. From (**Energy and Dollar costs of Ethanol production with Corn**) By David Pimentel.

Using E85 reduces petroleum consumption

- Use of E85 will reduce a fleet's overall use of petroleum and replace it with a renewable-based fuel produced ("grown") in the United States.

E85 is easy to use and handle

- E85 fueling equipment is slightly different and of similar cost to equipment used to store and dispense petroleum fuels. It may be possible to convert our existing petroleum equipment to handle E85.
- The approximate cost of a conversion of a existing station would be $3000.00

Does Ethanol help reduce air pollution?

- There is a significant reduction in both carbon monoxide and hydrocarbon tailpipe emissions when Ethanol is blended and used with gasoline in automobiles.
- According to the Department of Energy's Argonne National laboratory, Ethanol blended fuels reduced C02 equivalent greenhouse gas emissions by 7.8 million tons in 2005, which has the effect of removing the annual greenhouse gas emissions of over 1 million automobiles from the road.
- Since Ethanol contains oxygen, it contributes to a cleaner, more efficient burn of the gasoline which results in lower CO exhaust emissions. Ethanol is a simple chemical which, when burned, does not produce the complex pollutants and aromatics formed by many hydrocarbons and gasoline additives.

Ethanol E85 FAQ's

What about Ethanol's impact on fuel economy?

- Compared to gasoline, E85 has a higher octane (105), but lower energy content per unit of volume. Consequently, and vehicles operating on E85 may experience fuel economy different than gasoline models. See the chart bellow for further details.

Ford Taurus Results

Performance

	FFV E85	FFV Gasoline	Gasoline Model
Acceleration			
0-60 mph loaded (sec)	12.7	13.3	13.7
0-60 mph unloaded (sec)	9.9	10.4	10.5
40 to 60 mph (sec)	5.2	5.6	5.6
1/4 mile time (sec)	17.6	17.9	17.9
1/4 mile speed (mph)	80.1	78.4	78.4
Fuel Economy (mpg)			
City	12.8	18.9	17.6
Highway	20.3	26.7	28.0
Combined City-Highway	16.4	23.3	22.5

Braking	FFV E85		Gasoline Model	
Effectiveness stops:	meters	feet	meters	feet
62 mph (100 kph) dry pavement	52.3	171.6	53.0	173.8
31 mph (50 kph) wet Jennite	30.4	99.6	30.6	100.5
Panic stop				
31 mph (50 kph) dry pavement	13.7	45.1	13.4	44.0
31 mph (50 kph) wet Jennite	29.7	97.6	31.7	103.9

Cold Start Temperature °F	FFV E85 crank time	FFV E85 idle rating	FFV Gasoline crank time	FFV Gasoline idle rating	Gasoline Model crank time	Gasoline Model idle rating
-20	did not start		9 sec	5	8 sec	4.5
-15	did not start					
-10	4	7				

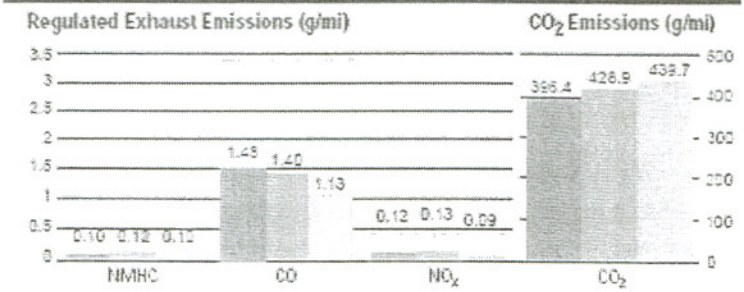
Idle ratings from 1 to 9, 1 being lowest rating

Subjective Ratings:

	FFV E85	FFV Gasoline	Gasoline Model
Routine handling	■	★	★
Emergency handling	★	★	★
Acceleration	■	■	■
Braking	■	■	■
Ride; fully loaded	■	★	■
Ride; lightly loaded	★	★	■
Noise	★	★	■
Driving position	■	■	★
Front seat comfort	■	■	★
Rear seat comfort	■	■	■
Climate control	★	★	★
Access	★	★	★
Controls & displays	■	■	★
Trunk	■	■	■

★= Excellent ■ = Good ● = Fair ○= Poor □= Very Poor

Emissions ■ AFV-Ethanol ■ AFV-Gasoline ■ Gasoline —— Tier 1



This project was sponsored by the Office of Technology Utilization in the Department of Energy's Office of Transportation Technologies and managed by the National Renewable Energy Laboratory.

Vehicle Maintenance

- Ethanol has a lower BTU value than gasoline, meaning that ethanol burns cooler and is gentler on the vehicle's engine – less wear and tear leads to longer engine life.

Ethanol E85 FAQ's

Vehicle Availability

- General Motor is the only Manufacture that is offering E85 Flexible fuel vehicles in California, for the 2006 model year. The models are the Impala, Monte Carlo, Silverado and Sierra half-ton pickups in 2 or 4 wheel drive.

Fuel Availability

- SoCo Group Fuels currently distributes E85 Ethanol in Southern California.
- Ethanol is available at the L.A Rack and is priced on a monthly basis.
- There is currently one E85 retail station in California. It is located in San Diego. It is the Regional Transportation Center (RTC)
- General Motors will help lead a joint demonstration project along with the state of California, Chevron Technology Ventures, and Pacific Ethanol to learn more about consumer awareness and acceptance of E85 as a motor vehicle fuel by demonstrating its use in GM's flexible-fuel vehicles.

Uses of Ethanol

- Ethanol is used in the manufacture of alcoholic drinks, e.g. Vodka, etc.,
- Ethanol is used as solvent for paint, varnish and drugs.
- Ethanol is used as the fluid in thermometers, and is used in preserving biological specimens.

E85 Flexible Fuel Vehicles*

85% Ethanol

Daimler Chrysler

2006
- 4.7L Dodge Durango
- 3.3L Caravan & Grand Caravan SE

2005 - 2006
- 4.7L Dodge Ram Pickup 1500 Series
- 2.7L Dodge Stratus Sedan
- 2.7L Chrysler Sebring Sedan

2004 - 2005
- 4.7L Dodge Ram Pickup 1500 Series
- 2.7L Dodge Stratus Sedan
- 2.7L Chrysler Sebring Sedan

2003 - 2004
- 2.7L Dodge Stratus Sedan
- 2.7L Chrysler Sebring Sedan
- 2.7L Chrysler Sebring Sedan

2003
- 3.3L Dodge Cargo Minivan
- 2.7L Chrysler Sebring Convertible & Sedan

2000 - 2003
- 3.3L Chrysler Voyager minivan
- 3.3L Dodge Caravan minivan
- 3.3L Chrysler Town & Country minivan

1998 - 1999
- 3.3L Dodge Caravan minivan
- 3.3L Plymouth Voyager minivan
- 3.3L Chrysler Town & Country minivan

Ford Motor

2006
- 3.0L Taurus sedan and wagon
- 4.6L Crown Victoria (Excluding taxi & police units)
- 5.4L F-150 (Available in December 2005)
- 4.6L Lincoln Town Car

2005
- 4.0L Explorer Sport Trac
- 4.0L Explorer
- 3.0L Taurus sedan and wagon

2004
- 4.0L Explorer Sport Trac

2002 - 2004
- 4.0L Explorer (4-door)

1999 - 2004
- 3.0L Taurus LX, SE & SES sedan

2001 - 2003
- 3.0L Supercab Ranger pickup 2WD

1999 - 2000
- 3.0L Ranger pickup 4WD & 2WD
- 3.0L Taurus LX, SE & SES sedan

Many 1995-98 Taurus 3.0L Sedans are also FFVs

General Motors

2006
- 3.5L Chevrolet Impala (LS, 1LT & 2LT)
- 3.5L Chevrolet Monte Carlo (LS and LT models only)

2005 - 2006
- 5.3L Chevrolet Silverado & GMC Sierra half-ton pickups 2WD & 4WD
- 5.3L Vortec-engine Chevrolet Avalance, Suburban, Tahoe, GMC Yukon & Yukon XL

2002 - 2004
- 5.3L Chevrolet Silverado & GMC Sierra half-ton pickups 2WD & 4WD
- 5.3L Vortec-engine Suburban, Tahoe, Yukon & Yukon XLs

2000 - 2002
- 2.2L Chevrolet S-10 pickup 2WD
- 2.2L Sonoma GMC pickup 2WD

Isuzu

2000, 2001
- 2.2L Hombre pickup 2WD

Mazda

1999, 2001 - 2002
- 3.0L Selected B3000 pickups

Mercedes-Benz

2005
- 3.2L C320 luxury & sport sedan & sport coupe
- 2.6L C240 luxury sedan & wagon

2004
- 3.2L C320 sport sedan, wagon & sport coupe

2003
- 3.2L C320 sport sedan

Mercury

2006
- 4.6L Mercury Grand Marquis (2-valve)

2002 - 2005
- 4.0L Selected Mountaineers

2001 - 2005
- 3.0L Selected Sables (look for "Road & Leaf")

Nissan

2005 - 2006
- 5.6L Titan King Cab & Crew Cab

**All above are select models only. Check your owner's manual or visit www.E85fuel.com to ensure E85 compatibility.*

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All E85 Pumps in California

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Berkeley, CA 94720

Private facility. No public access.

Lawrence Livermore National Lab
Lawrence Livermore National Lab
Livermore, CA 94551

Private facility. No public access.

Vandenberg Air Force Base
1705 Air Field Road
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805-606-6867
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